A GREAT INNOVATION BY SERANIT BUILDING INDUSTRY GROUP

SeraOxicoat

ECOLOGICAL COATING THAT REMOVES BAD ODOUR

YILDIZ TECHNICAL UNIVERSITY
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seranit ECOLOGICAL PRODUCTS

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For the first time in Turkey and the world, an interior coating is eliminating odours such as fried food, cigarette, toilet, paint and medicine, which occupy indoors thanks to the special elements it contains. Also, it prevents mold, moisture and bacteria growth. What's more, it is providing these advantages without pushing the costs.

SeraOxicoat, Interior Coating of the Future

Today, from Seranit!
Developed by the ceramic giant Seranit as a result of R & D developments that took many years and produced with 100% domestic capital, SeraOxicoat Ecological Coating is revolutionizing the construction industry and redefining coating with its unique features.

Since it is produced out of the mixture of completely natural materials, SeraOxicoat Ecological Coating is healthy and eco-friendly. It is a decorative and functional interior coating, which provides vast opportunities to architecture. When applied correctly and appropriately, it can last for centuries without any signs of degenerating.

Here are some of the features that make SeraOxicoat unique!

Eliminates unpleasant smells.

Prevents mold and bacteria growth.

It consists of the mixture of activated natural elements.

It ensures the absorption of various chemical gases.

Increases air quality.

Balances the moisture balance of the environment.

Contributes to sound and heat insulation.

Non–combustible.

Economic.

Provides processing and repair convenience.

Easily shaped and installed.

It is applied to all kinds of structures easily.

Light-weight.

Interior are cleaner, healthier and more comfortable now thanks to SeraOxicoat Ecological Coating…

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USER MANUAL AND TECHNICAL SPECIFICATIONS

SeraOxicoat
ECOLOGICAL PRIMARY COATING

TECHNICAL SPECIFICATIONS

Approximate water / SeraOxicoat Ecological Primary Coating Rate	10 kg SeraOxicoat Ecological Primary Coating 5-6,4 lt water
Water / SeraOxicoat Ecological Primary Coating Rate (For 4 and 8 kg)	1 kg SeraOxicoat Ecological Primary Coating to 0,5-0,64 lt water.
Socket star-up time	>20 minutes
Operating time (minimum)	50 minutes
Freezing time (minimum)	120 minutes
Consumptio rate per 1 cm thickness	9-9,5 kg/m^2
1500 micron sifted (minimum (%)	99
200 micron sifted (minimum (%)	50
Loose unit volume weight	650-750 kg/m^3
Volume weight of tight unit	800-900 kg/m^3
Reponse to fire	A1

SeraOxicoat Ecological Primary Coating;

can be applied to a wide range of elements varying from brick, concrete, exposed concrete, gas concrete, pumice concrete elements with either carrier or partition specifications. It can not be applied to wood or metal until necessary measures are taken. Adherence is significant in terms of surface condition. Therefore, the surface must surely be controlled. You must pay attention to following conditions and take necessary measures when controlling the surface.

Conditions such as coarse dirt, mould growth, too plane surfaces, lubricated surfaces; surfaces, on which absorption consistency is not achieved; frozen surfaces, availability of various surface materials, very high moisture rates in the construction, extremely Primary surfaces are some of the aspects that contribute surface inconvenience. In such cases, construction owners or technical authorities must be warned and necessary precautions must be taken.

Before SeraOxicoat Ecological Primary Coating is applied to the surface, simple controls and checks must be conducted in order to increase the quality of work. These methods are explained below.

Manual Control: Manual control must be conducted in order to understand whether surface is dusty and dirty or not. For achieving %100 productivity, it must be applied on more than one point. If there is any surface dirt, you can clean it with broom and cleaned. If it is necessary, it is washed and dried out before proceeding to the next stage.

Inspection: Thanks to inspection, conditions that affect the adhesion of coating, such as cohesive foreign substances, dirt, carbon deposits, grout stains, residues of mold board, loose and disintegrating parts on the concrete surface, cohesive lime and blooming, very smooth and tight surfaces are easily detected. In such cases, cohesive foreign substances, loose and disintegrated parts of the concrete are removed and lime and blooming are cleaned with a wire brush.

Scratch Test: Another method for checking coating floor is scratch test. This test is conducted with a pointed and hard object (scraper, trowel, etc.). Meanwhile, if parts that exfoliate or rub off are detected, the surface is thoroughly cleaned with a wire bush prior to coating operation as a measure.

Wetness Test: For this test, clean water is applied to the surface by means of a brush. If the water is still dropping from the floor or its color doesn't change from light to dark in short period time after a few minutes, the surface may be oily or too moist. In this case, the oil on the surface is cleaned and rinsed by means of degreasing substances. If the level of surface moisture is too high, you must wait for the surface to dry.

Temperature Measuring: Coating application must not be performed at temperatures below +5 °C. Temperature can be measured with a thermometer. If ambient temperature is too low, the risk of coating's freezing emerges.

Preparation of the Surface Where SeraOxicoat Ecological Primary Coating Will Be Applied

Preliminaries

After necessary controls and experiments are conducted on the surface, on which SeraOxicoat will be applied, preliminary works are commenced. Before starting application, all the burr on concrete and exposed concrete must be cleaned. A lump hummer, chipping hatchet or a spiral can be used for this application. Dust and other substances that prevent adhesion must be cleaned with a brush. Surfaces, which are cleaned by brushing, must be wetted before application. This is done by means of a brush. Another method is hosing the wall and saturating its water requirement. This is especially necessary in extremely hot weathers and for spongy construction materials (gas concrete) that absorb plenty of water.

In order to avoid all kind of problems, which may prevent SeraOxicoat from adhering to the surface and you must wait for the surface to absorb water completely. Smooth and tight surfaces must be roughened in order to increase adherence. For instance, an indentation application can be performed with a chipping hatchet or lump hummer. After this process, the brush must be cleaned and wetted. In another alternative surface treatment and connecting materials can be used.

Process Steps	Suggestions
Surface Diagnosis	Obtain information about surfaces, on which, SeraOxicoat Ecological Primary Coating is applied. Be careful. Wear your work uniform. Check the operating conditions.
Surface Cleaning	Pay attention to details. Make good use of time and material. Be attentive to protecting environment.
Surface Finish	Clean the dirt, burr etc. on the surface. Roughen up the plane surfaces. Be quick and practical.

Documents such as brochures, catalogues etc., which contain technical specifications and information on the packaging about SeraOxicoat Ecological Primary Coating, must be examined before any operation. Special attention must be paid to water and rough coating rates, operating times, freezing times and consumption rates.

If you completed all the stages up to this point, you can start preparing SeraOxicoat Ecological Coating's grout. SeraOxicoat Ecological Coating preparation stages for wall and ceiling surfaces consist of the same process steps.

First of all, wear gloves as a work safety measure. Fill the plaste bowl with mixing water in accordance with the amount of grout you are preparing (learn from technical specifications). You must use potable water for this application. After bringing SeraOxicoat Primary Coating's bag to vertical position, cut the upper part with a stationary knife. Take a handful of coating and add to the water in the coating bowl with sprinkling method. Continue sprinkling until SeraOxicoat Ecological Primary Coating cover the whole surface of water. Wait until SeraOxicoat Ecological Primary Coating, which you sprinkled over the water you determined, is infused sufficiently.

After infusing period of SeraOxicoat Ecological Primary Coating is completed, you can proceed to mixing process. You can conduct mixing process by means of a low-speed mechanical mixer or a trowel. Mixing process must continue until the grout is ready for application reaches the required consistency with no lumps in it.

Application of SeraOxicoat Ecological Primary Coating

After SeraOxicoat Primary Coating is prepared, install the main frames that will help you control SeraOxicoat Ecological Primary Coating leveling on the wall. For this purpose, apply the coating mortar by means of a spatula, along the direction that you established. The space between two anos must not exceed the height of the gauge you will be using. It must be approximately between 150-200cm.

Water gauge, straight edg or a string can be used to align both surfaces when coating anos. Corner profiles are used on outer corners of walls, door and windo transitions. These profiles allow for turning these corners in the same amount and smoothly. Corner profiles are cut with a profile cutter in required sizes. Coating corner profiles are placed to the corners by means of SeraOxicoat Ecological Primary Coating. Vertical scale is controlled by means of a water gauge. Metric controls must be performed on the parts, where door and window framed will be placed.

You must wait until the mortar, which is used for adhering ano lath and corner coating profiles gets a little harder. You can make any repair works on the wall surface. Cracks and holes must on the wall surface must be filled with SeraOxicoat so that the coat doesn't make any leakage on that area.
Apart from filling cracks and holes; SeraOxicoat Ecological Primary Coating and net operation with a width between 25-30cm must be performed at joint points for different materials (for instance concrete, brick etc.).

For this purpose, SeraOxicoat Ecological Primary Coating is applied to connection points by means of a steel trowel and by paying attention to not exceeding coating thickness. Coat mesh is applied over it. This application reduces crack risks.

1. Method: After all these operations, you can start rough coating SeraOxicoat Ecological Coating. Take a little coating to your shovel from SeraOxicoat Ecological Primary Coating grout. SeraOxicoat Ecological Primary Coating mortar on the shovel is applied by pressing from the bottom to the top. This operation continues until it fills until coating lath.

2. Method:

SeraOxicoat Ecological Coating grout on coating trowel can be applied by sprinkling on the surface by means of coating shovel. This process continues until all the surface fills up. Wall surface is filled with both of the methods in a way that the coat exceeds the thickness of ano laths. Then, “surface finish” is applied by pressing aluminum knife template to both ano laths bottom up.

Excessive mortar accumulating on aluminum knife template is taken by means of a trowel and applied to the coat surface in order to fill the gaps. After gaps on the coated surface are filled, another “surface finishing” operation is performed. This process continues until the ceiling. After surface finishing is completed on the whole surface, ano laths are removed. Emerging gaps after ano laths are removed are filled with SeraOxicoat Ecological Primary Coating.

Areas, where corner profiles had been placed on outer corners of the walls and door and window centers previously are also filled with SeraOxicoat Ecological Primary Coating. A leveled gauge can also be used for this operation. After Coating on all the surfaces is completed, final inner corners are given their final shape with a corner trowel. A Coating mesh must be used on different material connection points and on areas where possible movement is anticipated.

Specifications mentioned above can vary depending on construction site conditions and floor properties. SeraOxicoat Ecological Primary Coating produces a porous surface due to its chemical structure. It is called “rough coat” for this reason. It is necessary to cover the coated surface with “50% SeraOxicoat Ecological Final Coating and 50% SeraOxicoat Ecological Primary Coating” in order to have a cleaner surface with elevated properties. Doing this will increase the efficiency of the product.

SeraOxicoat Ecological Final Coating is applied in order to have a smooth surface. SeraOxicoat Ecological Final Coating is called “fine coat” due to this property. SeraOxicoat Ecological Final Coating is a correcting coat. SeraOxicoat Ecological Mixed Coat after SeraOxicoat Ecological Primary Coating applied to brick, concrete, exposed concrete, gas concrete, pumice blocks surfaces, when the surface is slightly moist, %50 SeraOxicoat Ecological Primary Coating and 50% SeraOxicoat Ecological Final Coating are mixed and brought into a consistency of mortar. Coat on the steel trowel is coating on the surface from bottom to up, last finishing touches are made and prepared to SeraOxicoat Ecological Final Coating application.

Note: This operation is significant in terms of increasing the properties of SeraOxicoat Ecological Coating.

SeraOxicoat
ECOLOGICAL FINAL COATING

TECHNICAL SPECIFICATIONS

Water / SeraOxicoat Ecological Final Coating's Ratio	10 kg SeraOxicoat Ecological Final Coating 5,4-6,8 lt water
Water / SeraOxicoat Ecological Primary Coating Rate (For 4 and 8 kg)	1 kg SeraOxicoat Ecological Primary Coating to 0.54-0.68 lt water.
Socket star-up time	>20 minutes
Operating time (minimum)	30 minutes
Freezing time (minimum)	90 minutes
Consumption rate per 1 mm thickness	0.79-0.89 kg/m^2
200 micron sifted (minimum (%)	99
Loose unit volume weight	600-700 kg/m^3
Volume weight of tight unit	750-850 kg/m^3
Response to fire	A1

First of all, SeraOxicoat Ecological Primary Coating residues and gauge lines are cleaned by means of a spatula (a scraping operation is applied). SeraOxicoat Ecological Final Coating, which is prepared by adding water in specified ratios is taken on the steel trowel. The coat on the steel trowel is perfused bottom-up, creating a thickness of at least 1mm.

Last finishing touches are made by means of a wide mouth inclined spatula and SeraOxicoat Ecological Final Coating operation finishes. If you want to have a smoother surface, the wall surface can be sanded with a 0-400 sandpaper.

Suggestions	
Make a SeraOxicoat Ecological Primary Coating	Wear your work uniform. Be careful. Know the specifics of the surface, where SeraOxicoat Ecological Primary Coating will be made. Get to learn learning conditions. Obtain information about surfaces, on which, SeraOxicoat Ecological Primary Coating is applied. Learn about surface finishing and roughening operations. Pay attention to details. Make good use of time and material. Learn how to mount ano lath. Apply Coating to walls and ceiling with SeraOxicoat Ecological Primary Coating. Pay attention to protecting the environment.
Apply SeraOxicoat Ecological Final Coating	Wear your work uniform. Be careful. Apply finishing operations on the surface. Learn how to prepare SeraOxicoat Ecological Final Coating mortar Check the operating conditions. Apply Coating to walls and ceiling with SeraOxicoat Ecological Final Coating. Perform compaction and finishing operations. Pay attention to details. Make good use of time and material.

Problems That May Occur When Applying SeraOxicoat Ecological Primary Coating and Final Coating and Their Solutions

Early Freezing: If the prepared SeraOxicoat Ecological Coating starts freezing early, it means that necessary cleaning conditions are not met, specific details about SeraOxicoat Ecological Coating and radio were ignored or you are being involved each other more than you should. In order to avoid this, we must comply with use instructions and pay attention to amount of water to be added to the mixture. Temperatures below 25 °C may cause the water to freeze early.

Cracks: If cracks occur after the coat is applied to the wall, the wall may have a different absorption capacity. Thick amounts of the coat and less amount of it may have been applied due to the fact that the wall was not flat everywhere. In order to eliminate such problems, the wall must be wetted before and allow the wall absorb water sufficiently. In regions, where absorbing capacity is generally different, coating mesh must be applied on areas where, let's say, concrete part and brick part connect. If the wall is not smooth, holes on the wall must be filled and applied coat. Thickness of rough coat must be at least 1cm.

Scratching on the Wall: Among the reasons why SeraOxicoat Ecological Coating scratch the lower layer during application are; accumulation of solid particles when materials are wetted during transportation, applying a thin layer of coating, disintegration of solid particles from the layer on the sub grade, using dirty water and not paying enough attention to cleanliness. Special attention must be paid not to let the bags get wet in order to avoid this end. You must be about keeping the ground where the coat is mixed and the wall must be cleaned before the coating is applied.

Coagulation: Main reasons why coagulation occurs when material is mixed are; the fact that the bowl, in which the coat is mixed is not clean, use of dirty water and adding SeraOxicoat Ecological Coat after the material is mixed. In order to avoid agglomeration, the bowl in which the coat is mixed and the water must be clean, SeraOxicoat Ecological Coating must not be added after mixing operation is completed and particularly not adding pre-soaked and moisturized materials to the mixture.

Shedding: Coat chapping on the wall, shedding and not adhering to the wall may stem from the fact that coat is applied to the wall with thin layers, wall's absorbing water through the wall because of extreme dryness and late finishing operations. If coatinging is performed in hot weathers, the wall must be watered before coating operation. Because, otherwise the wall absorbs the water it needs from SeraOxicoat Ecological Primary Coating. If the coat is applied to the wall with thin layers, the same shedding phenomenon may be observed. Therefore, the thickness of the rough coating applied on the surface must be at least 1 cm.

Bleeding on the Wall: If the coat bleeds on the wall, probable reasons of this condition are dirty walls and freezing of mixing water since the operation is conducted under ideal temperature values. In order to prevent bleeding on the wall, the wall must be removed of dust, dirt and oil. Ambient temperature must be at least +5 °C. If possible, the area where coating is applied must be pre-heated.

Bursting: The main reasons why coating burst or crack include the fact that the wall is not removed of dust and dirt sufficiently, the wall is not wetted before coat operation and the lime contained in the cement-lime based liquid under the rough coat is not extinguished completely. In order to prevent bursting, it is necessary to pay attention to extinguishing the lime contained in the cement-lime based coat, which is applied prior to SeraOxicoat Ecological Primary Coating, and make sure that the wall on which SeraOxicoat Ecological Coating will be applied is removed from dust / dirt and the wall will not absorb coat water.

Blossoming in the Coat: Using dirty water when preparing the coat causes accumulation of blooming. In order to avoid this, special attention must be paid to using clean water and making sure that all the surface has the same temperature.

Perspiration on Coating Surface: Excessive moisture in the environment, where these operations are performed, causes the coat to perspire. If the place, where coating is performed must have as much a dry air as it can and if necessary, coating is performed where there is little moisture can eliminate perspiration problem.

Blistering: The reasons why the paint applied on the coat blisters are the fact that the wall is not dried completely and dirty. It is necessary to make sure that the wall is completely dry before applying painting. The dirt and dust on the surface must be cleaned.

Problems That May Arise From SeraOxicoat Ecological Primary Coating

Moisture: Moisture is the amount of water vapor found in the air. In moisture calculations, both related humidity and specific humidity. Absolute humidity, is the amount of moisture in the most volume. It is calculated in gram/cubic meter. Relative humidity is the ratio of the amount of humidity in the hair to the maximum humidity that air is capable of. It is estimated as unitary and inversely proportionate to temperature. Specific humidity, on the other hand, is the ratio of water vapor in a gas to the weight of gas. Humidity rates, broad Coatinged on televisions give us a hint about how our body can balance its temperature by means of evaporation on our skin. In other words, sensible (apparent) temperature. During hot weathers, since relative humidity is extremely high, evaporation on our body slows down and we start to feel distressed.

Humidity, which was balanced before, prevents dryness and irritation on the skin as a result of dryness. Also, breathing is easier in places where dry and hot climates are prevalent. Humidity, can affect human body adversely especially in hot weathers. Extreme perspiration and increase of body temperature, leads to exhaustion and slowing-down of metabolism. Also, it causes iron to rust and get irritated. Humidity, which penetrates through the concrete in a reinforced concrete construction, damages iron equipment and cause the static of the building to fail.

Damp: It doesn't have any exact equivalent in Turkish, it is generally called "rutubet" and it means damp. The weather of a moist environment is not healthy. Mould growth in moist environment is one of the indicators of this. In moist environment, pests such as allergy and bacteria have an ideal place to reproduce.
Moisture leads to rheumatic illnesses and respiratory tract illnesses.
Particularly people with upper respiratory tract can not breathe easily. Not being able to breath regularly leads to illnesses easily.
The fact that a healthy individual, who sleeps at a moist environment feel a heartache when he /she woke up is another indicative of the danger of alcohol.
It is especially difficult for families with babies protect their children from such institutions.
Removing your living areas from moisture is very significant for you, rather than saving your room or nay other property.
It causes and odor and wetness, which penetrates through our wardrobes and damage our clothes.
It paves the way for moth and bacteria growth in our wardrobes.
It leads to a pungent stench and wetness in kitchen and bathroom closets.
In highly moisturized environment, allergy leads to the growth of viruses and bacteria, and finally rheumatic diseases.
Odors in living areas such as house and office leads to an unhealthy atmosphere.
It causes deterioration, molding, rusting and corrosion in such areas as storage, cellar, and cupboard.

Toluene: Found in nail varnish and certain paints, and spreading to the air when certain petroleum based paraffin candles are a solvent, Toluene can damage the nervous system. Like many chemicals, Toluene also evaporates, enters into the lungs and leads to allergy. It sometimes even causes headache, nausea and even hallucinations.

Carbon monoxide (CO) Gas: Carbon monoxide gas is a toxic gas which is found in the smoke which occurs when the fuels such as natural, gas, gas oil, gasoline, tube gas, coal and wood, which contain "carbon" can not burn. Since it can not be recognized in any way because of being colorless, odorless and without any irritation effect, it is known as "silent killer." This gas, which reduces the amount of oxygen in a person's blood, causes an unaccountable exhaustion.

Carbon Dioxide (CO_2) Gas: CO_2 is found in the blood in certain amounts and constitutes one of the buffering systems of our body. When it increases in the blood, the body produces acidosis, when it decreases, it produces alkalosis. These conditions indirectly affect ion concentration in the body. If CO_2 pressure is present in arterial blood up to 120 mm; the person may feel headache, muscular twitching, orientation disorder (seeing things which don't really exist), somnolence, confusion, or comma may be suspected.

Formaldehyde: Formaldehyde's influences are felt mostly when it is in gas form and taken into the body by means of perspiration. Consumers can be influenced by formaldehyde which spreads from materials, cosmetics, home furniture's and weaving products. Sudden formaldehyde influence may cause death. Its threshold is about 1 ppm. Since the threshold of sensing formaldehyde can increase depending on the level of exhaustion, it is not easy to regard this smell as a warning factor. Long-term formaldehyde exposure in little 'doses' can cause dyslexia, eczema and allergic reactions. Formaldehyde is reported to be one of the carcinogen substances. It is considered that formaldehyde is associated with nose and lung cancer, related to brain cancer and leukemia. When 0,1 ppm formaldehyde is found in the air, it causes watering of eyes, coughing, difficulty in breathing, stertorous respiration, skin rash, allergic reaction, sore throat and nose. Depending on the level of influence, it causes vomiting and diarrhea. Since it leads to sensitivity, following influences may lead to more severe reactions to the same dilutions. 2 ppm concentration leads to eye irritation; in 20 ppm, even one influence causes loss of color sight in cornea. Influences more than 25 ppm leads much more severe reactions including acute pulmonary edema.

Ammoniac: It is a colorless gas, with a pungent stench, which makes one's eyes burn and water. Humans' and animals' bodies constantly produce ammoniac as the proteins decompose because of certain chemical reactions. This ammoniac is excreted with urine. It spreads in the air as animal and plant proteins decay.

SUGGESTIONS

When using SeraOxicoat Ecological Coating, don't mix it with any other product or material.
Use mechanical mixer when preparing the mortar.
Apply SeraOxicoat Ecological Primary Coating so that it can make a layer of 1 cm.
After mortar is mixed, don't use any SeraOxicoat Ecological Primary Coating or Final Coating to this mixture.
Average temperature of the environments, where the Coating is applied must be at least +5 °C.
Dry and hot surfaces must surely be wetted before application.
After SeraOxicoat Ecological Primary Coating, mixing 50% SeraOxicoat Ecological Primary Coating and 50% SeraOxicoat Ecological Final Coating, and applying this mixture to the rough coating will increase the efficiency of the product.

STORAGE CONDITIONS

SeraOxicoat must be piled up one on the top of the other with maximum 20 bags.
SeraOxicoat must be consumed within 9 months after it is purchased, provided that it is stored in a dry, moisture-free and closed environment and on a pallet.
Poor storage conditions or exceeding the life cycle affect the qualities of SeraOxicoat Ecological Coating negatively.

Notes

Price / Cost

Gypsum Plaster 35 Kg Bag Odor Absorbing Rate incl.VAT = € 8.15

Consumption 9 - 9.5 kgs/ m^2 = 35 kgs ÷ 9.5 = 3.68 of 1 bag per 1cm = € 8.15÷3.68 = € 2.21m^2

Satin Finishing Gypsum Plaster 30 Kg Bag Odor Absorbing Rate incl.VAT = € 17.99

Consumption 9 - 9.5 kgs/ m^2 = 30 kgs ÷ 0.9 = 33.33 of 1 bag per 1cm € 17.99 ÷33.33 = € 0.54 m^2

Notes

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